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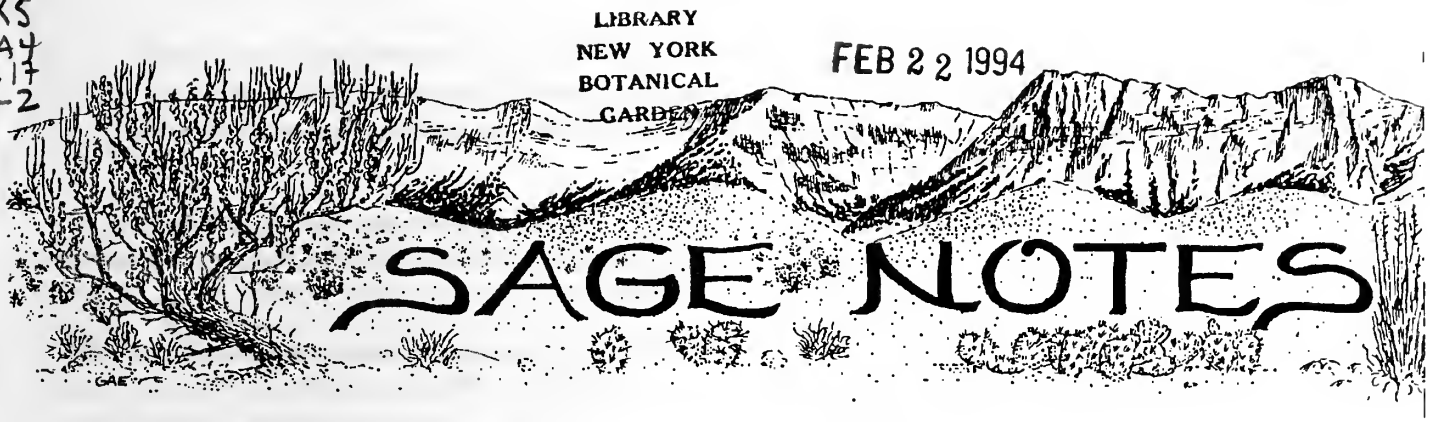


February, 1994 * SAGE NOTES * A Publication of the Idaho Native Plant Society * Vol 17 (1)

INPS Rare Plant Conference, February 8-9, 1994

The Idaho Native Plant Society is hosting the 10th Annual Rare Plant Conference on Tuesday and Wednesday, February 8-9, 1994. On this special anniversary, we will recognize members of the 1981 Red Book Committee for their significant contributions toward rare plant conservation in Idaho. Be sure to attend!

We encourage all agency and professional botanists, ecologists, conservationists, and interested lay-people to attend. These meetings are an in-depth examination of rare and potentially threatened native Idaho plants, including where they were last seen, their current status, and slides of the plants, if they are available (bring any that you have).

Due to growing attendance, this year we have relocated the conference to the **Idaho Power Corporate Headquarters**. Your $10 registration fee will cover the cost of materials, including the addition of State Sensitive species to the rare plant booklet, and updates from the Federal, State Priority 1 and Priority 2 lists, and of course, the latest conference coffee mug. After February 1, the fee will be $15. Sign in and registration is from 8:30 to 9:00 on Tuesday, February 8.

The banquet will be a family-style Chinese dinner, on Tuesday, February 8 at Yen Ching, in downtown Boise at the corner of 9th and Bannock Streets, at 6:00. The cost is approximately $13.00 with a no host bar, and is open to anyone **whether or not they attend the Rare Plant Conference**. This year's speaker will be Dr. Jim Smith, Professor of Botany at Boise State University. He will speak on conservation in the tropics.

For further information and registration, contact Michael Mancuso at (208) 334-3402 (day) or (208) 336-8023 (home). Contact Nancy Cole at (208) 383-2351 for information on parking in the Idaho Power Corporate Headquarters parking lot. For banquet reservations, contact Pam Conley at (208) 384-1675 if you are not attending the conference. We will take a head count for reservations at the conference on Tuesday morning as well.

We look forward to seeing you there!

FIELD TRIP DATES NEEDED!

Please get your field trip schedules to the editor by March 15! I would like to publish the state-wide field trips again this April. If your summer schedules are not in place by then, no worries - the list will be updated all summer long, and will reflect any updates and changes. Just please get me your April and early May field trips by that date.

(We insert here the usual pleading for articles, book reviews, illustrations, or anything else that you would like to see in the newsletter. Please send them directly to the editor. Material for the May, 1994 *SAGE NOTES* should be sent by April 10.)

From the President . . .

- Susan Bernatas, President, INPS

Happy New Year, and may all your botanical endeavors come true!

Several issues were brought forth at the year's end, and we must tackle and resolve them in this New Year.

Conservation Committee

INPS has started the much-requested-for Conservation Committee. The goal of this committee is to work with the Board to develop conservation strategies for INPS, and to serve as a contact for members and others wishing INPS support or comments on issues related to native plant or habitat protection.

Juanita Licthardt, from the White Pine Chapter, agreed to chair the Conservation Committee, and takes on that position with Board approval. Juanita is the vice-president of the White Pine Chapter, a top-notch botanist who works for the Idaho Conservation Data Center, and a past-president of the Montana Native Plant Society. Currently, the conservation committee is composed of Juanita. She clearly cannot review or evaluate all potential conservation concerns. Rather, she will guide folks on how to collect the appropriate information and present it to the Board.

The INPS' conservation effort and procedures will continue to evolve, and I would like your input in what kinds of issues you would like the INPS to address. I am also interested in hearing from other members that would like to help out on the Conservation Committee.

The Board made several resolutions last year regarding conservation advocacy. They decided that any position statement or legal action would be brought before the Board, and that these types of issues would be few and far between. No individual or chapter could act alone in this type of effort. Letters for informational or educational purposes could be handled at the local or state level. There were some strong feeling both for and against making position statements, and sentiments were especially strong against taking legal action. It was agreed that these types of efforts could be taken to protect the native plant resources in Idaho, but would only be adopted with Board consensus.

Some of the concerns and issues expressed during these discussions regarding this advocacy were as follows:

- INPS is a not-for-profit educational organization (501 (c)3), and this is our prime directive.

- INPS has members that work for agencies and may be harmed by legal or other action.

- Education, which should be our first tool, is our strongest tool.

- Any Board member may choose to formally remove themselves from an issue, or in the case of conflict of interest must remove themselves from the issue.

- All chapters must have a voice in the decision through their President or their designee.

- No issue should split the organization.

- If the Board chooses not to take action on an issue, a member or chapter could informally approach other organizations for conservation strategies. However, these organizations would not represent INPS. Such interactions could be very positive in that another organizations would benefit from the collective botanical minds in INPS.

- INPS currently has very high credibility as a result of the working relationships that the chapters have developed with agencies and others. For example, the INPS Rare Plant List, developed by a statewide group of agency and other interested botanists, is widely used by these agencies and others in decision making.

- INPS has much to loose in lending the INPS name to issues outside of native plant or habitat conservation.

- There are no decisions that need to be made that can't wait until the Board members have been contacted.

- Any fight worth fighting is worth fighting well. Taking time to educate the Board and members on an issue would result in greater strength than an act without the benefit of education.

I would expect that developing an effective conservation program will take some time to be sure all members are comfortable with the process. Our strength is in our statewide representation, and we need to protect this working relationship so that we can best protect the native plant communities of Idaho. I personally feel that no issue should split the organization. If we cannot keep INPS together then we have little hope of effectively tackling other issues.

The INPS Board will be drafting an amendment to the By-laws for membership vote. I am interested in your views on this issue.

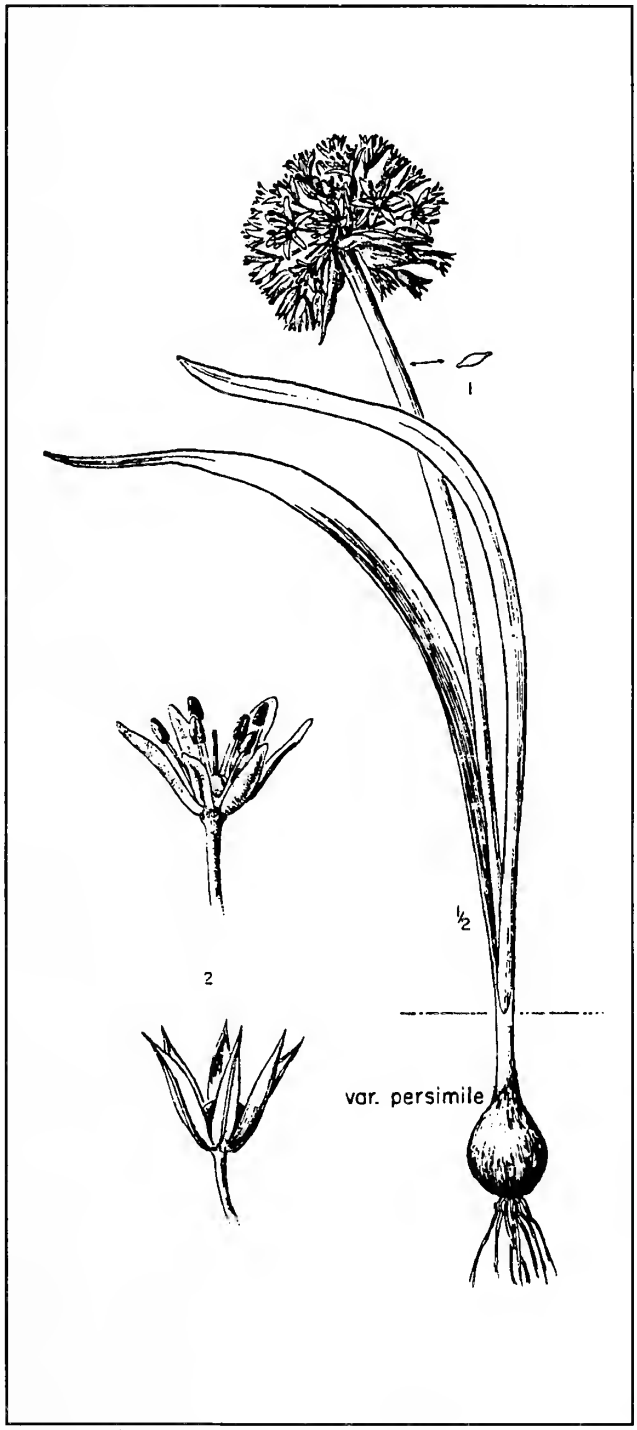
Allium tolmiei persimile

The Boise and Payette National Forests are working on a conservation strategy for *Allium tolmiei persimile*. The two forests want to develop and implement this strategy, but the Forest Service cannot develop a Memorandum of Understanding (MOU) for this conservation strategy without involvement of another group. Wayne Owen, Forest Botanist for the Boise National Forest, has requested that INPS be a party to the MOU. The MOU is in draft stages and I've sent it to Nancy Cole, Juanita Lichtardt and Jim Smith for review. So far INPS' only responsibility is to review the progress of implementation of the conservation measures on an annual basis. If you are interested in helping out with this issue, please contact Wayne or myself ASAP.

Idaho Trees Multi-Image Slide Show

This project is underway - slowly but surely. Approximately two months ago Jim Smith, Wayne Owen, Kristin Fletcher, Michael Mancuso and I discussed the best way to address Idaho's Trees. We decided to develop a multi-image slide show. Susan Small, a soon-to-be graduate student in biology, is working on the script, and should have a draft by the end of January. We are looking for slides of trees and any interesting vignette on trees in your area. Please contact any one of us if you have any such slides.

Mountain Visions will be contracted for the production.



Allium tolmiei persimile
Drawing by John Rumely

MONEY IS AVAILABLE

Yes, really! Money is available for planting trees and other native plants for community projects through the Idaho Department of Lands (IDL) Urban and Community Forestry program. Other projects can also be funded. The Idaho Trees project is being funded from one of the IDL grants programs. The grant applications will be available shortly. Let me know how I can help you obtain one of these grants for your projects.

Elections

YES, it is time to round up a slate of candidates for the Board. Write to the Nominations Committee or call Susan Bernatas if you are interested in taking a leadership position in INPS. We need candidates to fill all positions this year. Elections will be held in February.

Ask not what your society can do for you, but what you can do for your society.

The Alternative Lifestyle of Allotropa virgata T. & G. (Candystick)

-Juanita Lichthardt, Conservation Data Center

Allotropa virgata (candystick) is a biologically interesting and visually striking member of the Ericaceae (heath family). In Idaho, on the Nez Perce National Forest, it occurs mainly in lodgepole pine/beargrass communities. A somewhat succulent perennial, its common name refers to the vertically striped, red and white stems. *Allotropa* lacks chlorophyll, living instead off of the mycorrhizal fungi attached to conifer roots.

Allotropa is a rare plant in Idaho, exhibiting a disjunct distribution in which it is isolated by at least 300 miles from the main range of the species west of the Cascade Mountains. Its coastal range extends from southeastern British Columbia southward along the coast and in the Cascade/Sierra mountain chain to the southern tip of the Sierra Nevada (Wallace 1975). Inland populations occur in a fairly discrete area of Idaho roughly defined by the upper Selway River to the north, by the high mountains of the Gospel Hump Wilderness to the west, and reaching just south of the Salmon River (see map). Isolated populations also occur east of the Bitterroot Mountains in Montana where the species is found in widely scattered, isolated sites in six different mountain ranges. Less is known about its distribution in the Selway-Bitterroot Wilderness which lies between the Idaho and Montana populations. The unusual distribution exhibited by *Allotropa* is shared by a number of other plants which may have, under different climatic conditions than exist today, migrated inland via the Ochoco and Wallowa Mountains (Lorain 1988).

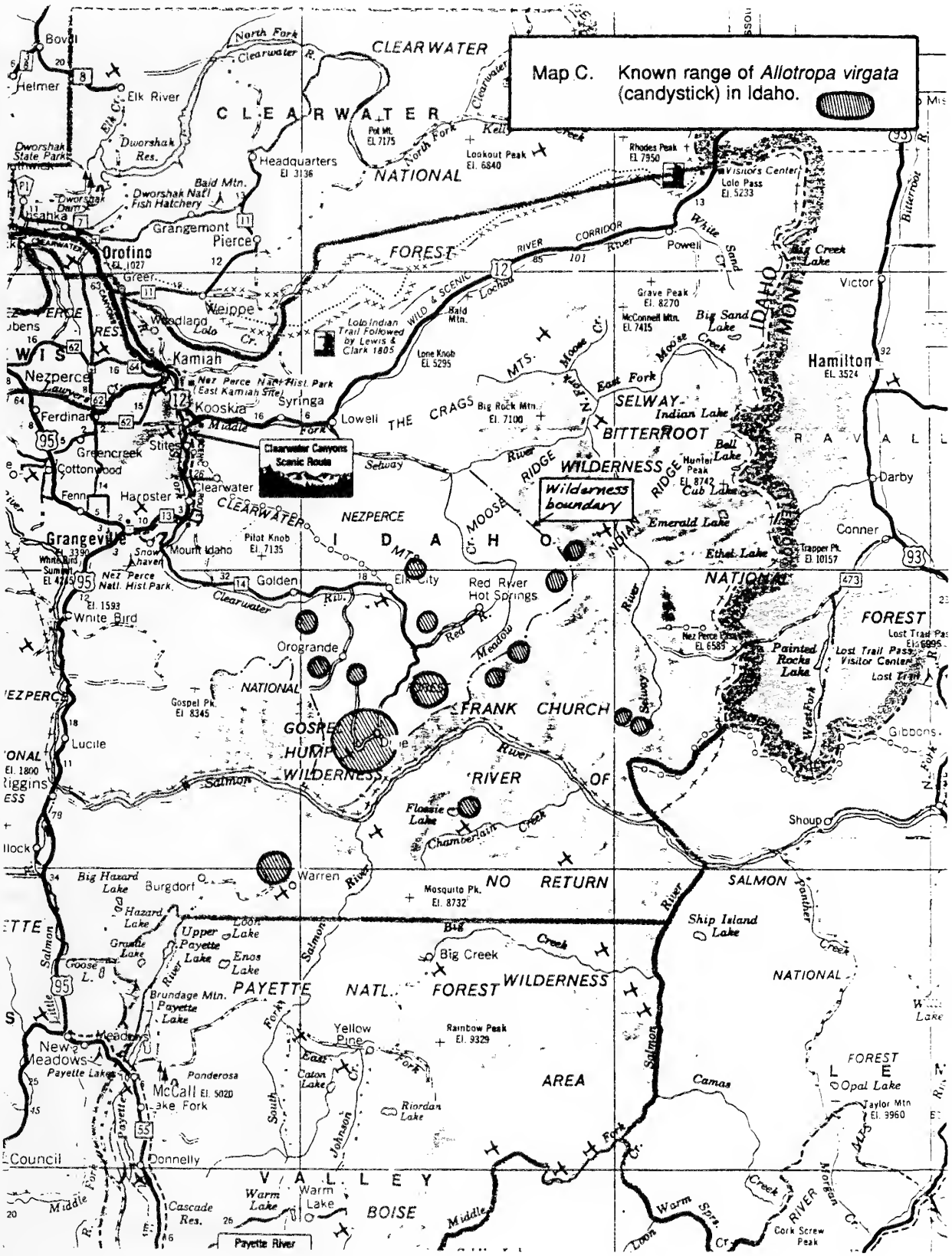
Allotropa is a rhizomatous plant producing fleshy, unbranched flowering stems, 1-4 decimeters tall, singly or in dense clumps. These "stems" are actually inflorescences which are the only above-ground portions of the plant.

Allotropa virgata, the only species in the genus *Allotropa*, belongs to a subfamily of the Ericaceae, the Monotropoideae, that is distinguished by a lack of chlorophyll. The common plant, pinedrops (*Pterospora andromedea*), belongs to the same group. *Allotropa* obtains metabolites from mycorrhizal fungi associated with conifer roots, and is therefore considered mycotrophic (Furman and Trappe 1971). As the only autotrophic member of this three-way association, the tree is essential to the survival of the mycotroph. Monotropes are thought to be more highly evolved than other members of the Ericaceae, partly because of this specialized relationship. In the case of *Allotropa* the preferred host appears to be lodgepole pine. However, it has been shown that *Allotropa* roots can be colonized by fungal associates of various conifers as well as several hardwood species (Castellano and Trappe 1985) and *Allotropa* sometimes occurs with subalpine fir, Douglas fir, and even Ponderosa pine (ICDC 1993).

Within its inland range, *Allotropa* is associated with mature (80-100 year), park-like stands of lodgepole pine at elevations from 5,000 to 7,000 feet. Populations tend to occur on gentle to moderate slopes with southerly aspects, often on a well-drained ridge crest or shoulder (Lichthardt and Mancuso 1991). Soils are derived from batholith granitics and are weakly developed and often shallow to bedrock. Buried, decomposing wood may be an important habitat factor because it provides a moist environment for mycorrhizal fungi (Castellano pers. comm.). Understory vegetation associated with *Allotropa* is usually dominated by *Xerophyllum tenax* (beargrass) and *Vaccinium* spp. (huckleberry and grouse whortleberry) with little or no regeneration of climax tree species. Understory diversity is low, with a high representation of heath-family genera. Forests of this type occur extensively in the South Fork Clearwater River drainage, representing a persistent seral stage of grand fir and subalpine fir habitat types, or in some cases a climax lodgepole pine type (Cooper et al. 1987).

Little is known about the population dynamics of *Allotropa*. Because plants do not photosynthesize, there is no need to produce above-ground stems except for seed production. A monitoring study carried out by the Nez Perce National Forest and the Conservation Data Center indicates plants may be sexually dormant for at least two years (Lichthardt 1992). Flowers are pollinated by bumble bees which swarm over the plants when flowers open in late summer. Seeds are tiny, like those of orchids, less than 20 cells in size, and are easily taken by the wind. However, seeds must make contact with a suitable mycorrhizal fungi in order to grow and possibly even to germinate (Castellano pers. comm.). Because of their small size they will desiccate rapidly after dispersal. Consequently, sexual reproduction may be of limited importance to the maintenance of populations.

Allotropa virgata is classified as sensitive by the US Forest Service. Its habitat is highly suited to road building and timber harvest, and conservation of the species has increasingly come into conflict with timber sale plans. Because the plant is abundant in certain core areas it is sometimes perceived as not requiring protection. As with many rare species, a lack of knowledge of the plant's population biology makes


Map C. Known range of *Allotropa virgata* (candystick) in Idaho.
CLEARWATER
NATIONAL
FOREST
NEZPERCE
FRANK CHURCH
RIVER OF
NO RETURN
WILDERNESS
SELWAY-
BITTERROOT
WILDERNESS
PAYETTE
NATL. FOREST
WILDERNESS
SALMON
NATIONAL
FOREST
AREA
VALLEY
Clearwater Canyons Scenic Route
Wilderness boundary
Bovill
Helmer
Elk River
Headquarters
Orofino
Pierce
Grangemont
Weippe
Kamiah
Nezperce
Kooskia
Syringa
Lowell
Greencreek
Cottonwood
Ferdinand
Stites
Clearwater
Harpster
Grangeville
Mount Idaho
Pilot Knob
Golden
Elk City
Red River Hot Springs
White Bird
Orogrande
Lucile
Warren
Burgdorf
Big Creek
Yellow Pine
Rainbow Peak
New Meadows
McCall
Council
Donnelly
Cascade Res.
Warm Lake
Payette River
Lookout Peak
Rhodes Peak
Visitors Center
Lolo Pass
Powell
Grave Peak
Big Sand Lake
Victor
Hamilton
Darby
Conner
Trapper Pk.
Ethel Lake
Emerald Lake
Cub Lake
Hunter Peak
Bell Lake
Big Rock Mtn.
Lone Knob
Bald Mtn.
Moose Creek
Painted Rocks Lake
Lost Trail Pass
Gibbons
Shoup
Ship Island Lake
Big Creek
Mosquito Pk.
Flossie Lake
Chamberlain Creek
Upper Payette Lake
Payette Lakes
Ponderosa
Brundage Mtn.
Granite Lake
Hazard Lake
Big Hazard Lake
Loon Lake
Enos Lake
Goose L.
Riordan Lake
Caton Lake
Camas
Opal Lake
Taylor Mtn
Cork Screw Peak
Gospel Pk.
Mosquito Pk.
Rainbow Peak
Taylor Mtn
Lolo Indian Trail Followed by Lewis & Clark 1805
Nez Perce Natl. Hist. Park
East Kamiah Site
Dworshak State Park
Dworshak Res.
Dworshak Fish Hatchery
Baid Mtn.
Lolo Creek
Weippe
Woodland
Lochsa
Selway
Middle Fork
Clearwater
North Fork
Elk Cr.
Moose Cr.
Indian Cr.
Red Meadow
Chamberlain Creek
Big Sand Lake
Big Creek Lake
White Sand Cr.
Bitterroot
Panther Creek
Morgan Cr.
Warm Spgs. Cr.
Loon Creek
Johnson Cr.
Caton Lake
Riordan Lake
Lake Fork
Payette Lakes
Granite Lake
Goose L.
Brundage Mtn.
Ponderosa
Yellow Pine
Big Creek
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Goose L.
Riordan Lake
Caton Lake
Camas
Opal Lake
Taylor Mtn
Cork Screw Peak
Gospel Pk.
Mosquito Pk.
Rainbow Peak
Taylor Mtn

conservation planning difficult. Particularly, the question is whether fragmentation of the species' habitat now occurring from timber sales will affect establishment of new populations and therefore viability of the species in its inland range.

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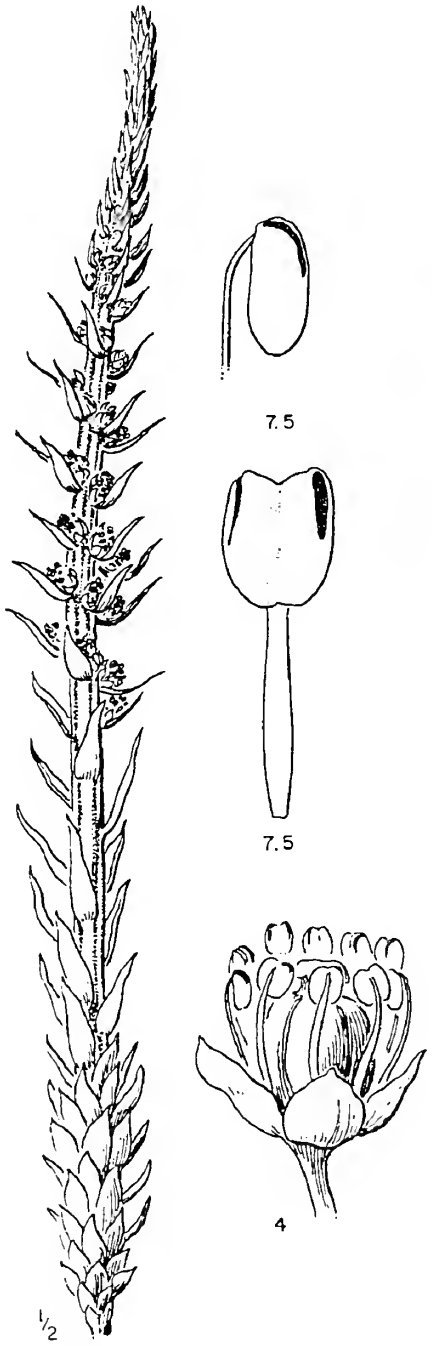

Allotropa virgata: flowering stalk, detail of anther and flower

Another View of Some Similar Plants . . .

- From Wild Flowers Worth Knowing, published 1917, by an unknown author (provided by John Joy, Deerlodge National Forest, Montana)

Indian Pipe; Ice-plant; Ghost Flower; Corpse-plant (*Monotropa uniflora*)

Colorless in every part, waxy, cold, and clammy, Indian pipes rise like a company of wraiths in the dim forest that suits them well. Ghoulish parasites, uncanny saprophytes, for their matted roots prey either on the juices of living plants or on the decaying matter of dead ones, how weirdly beautiful and decorative they are!

Yet to one who can read the faces of flowers, as it were, it stands a branded sinner. Doubtless its ancestors were industrious, honest creatures, seeking their food in the soil, and digesting it with the help of leaves filled with good green matter (chlorophyll) on which virtuous vegetable life depends; but some ancestral knave elected to live by piracy, to drain the already digested food of its neighbors; so the Indian pipe gradually lost the use of parts for which it has need no longer, until we find it today without color and its leaves degenerated into mere scaly bracts. Nature had manifold ways of illustrating the parable of the ten pieces of money. Spiritual law is natural law: "From him that hath not, even that he hath shall be taken away." Among plants as among souls, there are all degrees of backsliders. The foxglove, which is guilty of only sly, petty larceny, wears not the equivalent of the striped suit and the shaved head; nor does the mistletoe, which steals crude food from the tree, but still digests it itself, and is therefore only a dingy yellowish green. Such plants, however, as the broom-rape, pine sap, beechdrops, the Indian Pipe, and the dodder - which marks the lowest stage of degradation of them all - appear among their race branded with the mark of crime as surely as was Cain.

No wonder this degenerate hangs its head; no wonder it grows black with shame on being picked, as if its wickedness were only just then discovered! To think that a plant related on one side to many of the loveliest flowers in Nature's garden - the azaleas, laurels, rhododendrons, and the bonny heather - and on the other side to the modest but no less charming wintergreen tribe, should have fallen from grace to such a depth! Its scientific name, meaning a flower once turned, describes it during only a part of its career. When the minute, innumerable seeds begin to form, it proudly raises its head erect, as if conscious that it had performed the one righteous act of its life.

Pine Sap; False Beech-drops; Yellow Bird's-nest (*Monotropa hypopitis*)

Branded a sinner, through its loss of leaves and honest green coloring matter (chlorophyll), the pine sap stands among the disreputable gang of thieves that includes its next of kin, the Indian Pipe, the broom-rape, dodder, coral-root and beech-drops. Degenerates like these, although members of highly respectable, industrious, virtuous families, would appear to be as low in the vegetable kingdom as any fungus, were it not for the flowers they still bear. Petty larceny, no greater than the foxglove's at first, then greater and greater thefts, finally lead to ruin, until the pine-sap parasite either sucks its food from the roots of the trees under which it takes up its abode, or absorbs, like a ghoulish saprophyte, the products of vegetable decay. A plant that does not manufacture its own dinner has no need of chlorophyll and leaves, for assimilation of crude food can take place only in those cells which contain the vital green. This substance, universally found in plants that grub in the soil and literally sweat for their daily bread, acts also as a moderator of respiration by its absorptive influence on light, and hence allows the elimination of carbon dioxide to go on in the cells which contain it. Fungi and these degenerates which lack chlorophyll usually grow in dark, shady woods.

Update on Listing of Howellia aquatilus

- Reprinted from Kelseya, the newsletter of the Montana Native Plant Society

The U.S. Fish and Wildlife Service received eleven letters commenting on the proposed listing of *Howellia aquatilus* as a threatened species under the Endangered Species Act. Ten letters - including those from the Idaho, Montana and Washington Natural Heritage Programs and the U.S. Forest Service - favored listing, while only one, from the Washington Cattleman's Association, was opposed. Final decision on listing is due by April, 1994.

The Intricate World of Mosses

- Wayne Owen, Forest Botanist, Boise National Forest

> *Moss is a plant, that the wisest of Kings though neither unworthy of his speculation nor his pen, and though in bulk one of the smallest, yet it is not the least considerable; for as to its shape, it may compare for the beauty of it with any plant that grows.*
>
> *Robert Hooke, Micrographia (1665)*

They are everywhere, though they are barely noticed. Every day we spend hiking we tramp over a variety of moss species but who among us can recognize more than a single species? Even the name moss can be a source of confusion as many of the "mosses" with which we are familiar are not mosses at all. Riendeer "moss" and tree "moss" are actually lichens (*Cladonia subtenuis* and *Letharia vulpina* respectively), Spanish "moss" is a bromiliad (*Tillandsia usneoides*), the "moss" rose is a succulent species of *Portulaca*, "moss" grass (*Coleanthus subtilis*) is at least a grass, club "mosses" are seedless vascular plants (*Lycopodium* spp.), and Irish "moss" is a marine red algae (*Chondrus crispus*). One of the reasons that few among us have come to know our mosses is because there are so few role models for the budding bryologist. And why is that? Well, quite simply, because they are darn difficult to key. Some of the traits used to separate moss species are the surface characteristics of leaf cells, the number of cell layers at the edges of the leaves, the placement of stomata on the spore producing capsule, and the shape of cells found in a specific area at the base of each leaf. Obviously a compound microscope is the first requirement for those wishing to know their mosses and a microtome is useful. The taxonomy of mosses is also replete with new and exciting terminology. The sexual condition of producing male and female reproductive structures on different plants is called dioecious when a flowering plant is concerned but mosses that meet this definition are called dioicous (di-OIK-us). Mosses that stand upright are acrocarpos while those that sprawl along the ground are pleurocarpous. Cells are incrassate if they have thick walls and mammillose if they have bulges. Leaves are either with or without lamellae and may or may not have paraphyllia near their bases. My favorite moss term of all is julaceous - it means cylindrical and worm- or catkin-like.

Yes, mosses are difficult to learn, but they are very stimulating as well. When I key a moss I know that I am going to be working on a very tricky puzzle. The challenge is alluring and there is something very appealing about the size and unexpected complexity in form of the mosses. Looking at them under much magnification is like spending time in a Japanese Garden. From the outside, the complexity looks minimal yet with quiet contemplation there unfolds great variation on every possible facet. I wouldn't necessarily say that to key a moss is a Zen experience (though some experience with Zen is useful when keying mosses), but it does graphically demonstrate the subtle beauty of the life on a smaller scale. The *Moss Flora of the Pacific Northwest* by Elva Lawton is the primary reference source for the taxonomy of mosses in our area. This is a large book (bigger than the new *Jepson Manual*!), but smaller handbooks area available (e.g. Conrad and Redfern's *How to know the Mosses and Liverworts*).

Perhaps more generally interesting is the ecology of the mosses. Little is known about the specifics of mosses in the "wild". Most are perennial, most are small but some exceed 50 cm in height. Most mosses are widely distributed. Only about 5% of moss species are endemic in the traditional sense. As a group they are found in an incredible range of habitats. From Antarctica to Death Valley to high in the Himalayas, mosses endure, persist, and even flourish. Mosses can be found on a broad range of surfaces though most typically on rocks, soil, or wood. Some mosses are restricted to more exotic substrates such as dead animals, dung, the bones of dead reindeer, and the backs of certain large tropical insects. While tied to environments that are at least periodically wet (to effect reproduction), many mosses are remarkable in their ability to dry up and go dormant. In this state, mosses can endure incredible adversity. Some species have been frozen in liquid nitrogen and liquid helium and later rehydrated without a notable loss of vigor. Mosses from herbaria have been rehydrated after years of uninterrupted sleep, also without apparent detriment. While the mosses are quite inert while in their dormant state, they can become physiologically active with impressive rapidity. For example, many mosses can be actively photosynthetic within 15-20 minutes of rehydration (though it may actually take a full day to completely recover from the dormant state). For all of their tolerance and vigor, the mosses are notably frugal in their nutritional requirements. Mosses require the same nutrients as do higher plants, but in lower concentrations. This ability to thrive in the most depauperate of conditions explains why we find these plants living in abundance on the bare

harsh surfaces of rocks, beneath sagebrush, and in sterile acidic bogs. A characteristic of the mosses that I find particularly interesting is that no one seems to eat them. If you take a nap in a mat of mosses you will awaken with several species of insects on you, but these creatures are using the moss as shelter and not for food. As plentiful as they are, especially on the floor of dense forests and in the winter when little other greenery is available, one would expect to see a host of creatures both great and small feasting on the tender shoots of mosses. That is not the case however; except in rare instances mosses are unaffected by herbivores of any kind and when they are eaten it is usually as a last resort. This may be due to the low nutritive value of moss tissues or the presence of some chemicals that, in higher plants, have been shown to serve a defensive function (e.g. flavinoids and tannins).

Mosses have few economic uses. Some are grown as garden subjects, especially in Europe and Japan. These mosses are either collected from the wild or are grown as adventives. Unique among the mosses, the genus *Sphagnum* stands out as having a diversity of commercial and cultural uses. Also known as peat, *Sphagnum* has long been used as a soil amendment, a fuel for heating and cooking, an antiseptic bandage material, and a flavoring for Scotch Whiskey. But let us not judge the mosses in terms of their contribution to our economies or by there slightness in stature. The moss is a noble plant, diverse and complex. Next time you are out in the desert or woods take the time to get close to the ground and experience the intricate world of mosses.

Winter Botany

- Reprinted from the Calypso Companion, the newsletter for the Calypso Chapter of INPS

Winter is a great time to botanize in the outdoors. Many grasses fruit in the fall, and the lovely flowering stalks can be spectacular in the winter season. Covered with ice crystals, they can be a beautiful subject for photographers. Trees can be identified in the winter months by their shape, bark and remaining fruits or seeds.

Winter fruit and seeds are a tremendous food source for birds. Seeds or berries are often brightly colored; red is especially visible to birds. Many animals are heavily dependent on seeds and fruit for their winter food supply. This is a mutually beneficial relationship since animals often carry seed to new locations. This relationship is so important that many adaptations have developed to help disperse seed. Some seeds have barbs, sticky hairs or spines adapted to stick to animal fur. Other seeds have "wings", tufts of hair, or plumes to make them easily carried by the wind. Some seeds with cork-like coatings allow the seed to be carried by water.

Honeysuckle
Lonicera ciliosa
Honeysuckle Family
(Caprifoliaceae)

Drawing by Pam Gontz

CHAPTER NEWS

White Pine Chapter

Our monthly meetings are held in the College of Forestry Building on the University of Idaho campus, Moscow, Idaho, at 7:30 p.m.

Thursday, February 17: Monthly meeting - " Travalogue with a Tree-Lover Through China - Dawn Redwoods and Other Exciting Things", by Fred Johnson, Professor of Forestry at UI.

Thursday, March 10: Monthly meeting - "Native Plants of Latah County, 15 Million Years Ago - the Clarkia fossil record", presented by Dr. Bill Rember, Paleobotanist.

Thursday, March 31: Monthly meeting - "Conserving Rare Native Plants: Global and National Strategies, and What We Can Do in Idaho", by John Edson.

Calypso Chapter

Our chapter is active and organized! In our November meeting, we formed a Program Committee with LeeAnn Eno, Janet Benoit and Bob Shackleford, so that no single person is saddled with the job of coordinating activities. By the end of the evening, they had outlined programs for December through May, 1994! Thanks to all members who attended, and for keeping us moving in the right direction!

Our chapter elections will be held in May. Until then, Cathy Snider will be acting president and LeeAnn Eno will take on the duties of secretary.

Thursday, February 10: Monthly meeting, at 7:00. Beth Parmigian will speak on attracting birds to your yards with plants. Call Cathy Snider at 664-5411 for location.

Thursday, March 10: Monthly meeting, at 7:00. Curt Eastin will speak on medicinal uses of plants. Call Cathy Snider at 664-5411 for location.

Thursday, April 14: Monthly meeting, Program TBA. Call Cathy Snider at 664-5411 for location.

Wood River Chapter

Members of our chapter have received a detailed review of our activities from 1993. Here are some highlights . . .

- Our eagerly awaited trip to Malm Gulch, co-sponsored by the Sawtooth wildlife Council, drew 25 participants from Stanley, Challis, Boise and the Wood River Valley. We saw many species of rare plants found only in central Idaho as well as several huge petrified stumps of ancient meta-sequoia!

- We explored two 10,000 year-old bogs in the Sawtooth Valley for rare carnivorous plants during a fascinating field trip led by rare plant expert Bob Mosely and assisted by Paleobotanist Dr. Bill Rember.

- "Creating a Backyard Environment for Birds", with lectures and slides by Brian Sturges and Kristin Fletcher, drew over 50 enthusiasts armed with questions and notebooks.

- Clarissa Smith, a plant expert specializing in native medicinal and food plants, led an inspiring 2-day workshop which we anticipate offering annually.

- To this list the editor adds the excellent job the chapter did of hosting the INPS Annual Field Trip. Thanks, once again, for your efforts. Any chapter that wishes to show off its vicinity should consider hosting this annual event.

The most ambitious project in our chapter's 5-year history was initiated in 1993 with the cooperation of the Blaine County Recreation District. We are landscaping a section of our valley's 20-mile long bike path, transforming an abandoned berm filled with knapweed, puncture vine, and more into a self-sustaining (eventually) native landscape. Media coverage was excellent and more than a dozen members of the community joined us to plant $500 worth of shrubs and wildflowers. Participants also took part in mini-workshops focusing on xeriscaping, native plant selection and drip irrigation.

Our monthly meetings are held on the second Monday of the month at the Environmental Resource Center at 6:00, at 6th and Leadville Streets, Ketchum,

Idaho. For details, please call Kristin Fletcher at 788-9530.

Monday, February 14: Monthly meeting - Spring preview slide show. Bring your favorite slides from the incredible 1993 season and share them with us, along with something edible!

Monday, March 14: Monthly meeting. "Fossilized Plants from Idaho's Ancient Seas". Paleobotanist Dr. Bill Rember will show slides and discuss 15 million year old plant fossils he uncovered in ancient lake beds near Moscow. These fossils paint a vastly different picture of Idaho's environment than we see today. Raised in the Sawtooth Valley, Dr. Rember will welcome questions about our nearby area after his presentation.

Monday, April 11: Monthly meeting. Program TBA.

Pahove

Last April, at the Annual Earth Day Celebration, the chapter put on a native plant sale. This sale was a great way to educate the public about native plants, as well as raise a little money for the chapter. We would like to do this again this year. We rely heavily on donated plants, and are calling on anyone who has any spare natives in their yard to make a donation for the sale. Please call Ann DeBolt for more information at 384-1244.

We are initiating the spring activities at the Idaho Botanical Garden, where we will have a display of Idaho native plants. It is up to Pahove members to keep this project alive, and we need help with initial planting and some maintenance, although the staff at the Botanical Gardens will do much of the watering (as necessary) and weeding. See below and the April newsletter for more information on planting dates.

Also please note OUR FIRST FIELD TRIP OF THE SEASON. This trip may occur before you receive your April newsletter, so mark your calendars!

Our monthly meetings are held the third Thursday of each month at 7:30 p.m. in Room 217, Biology Building, Boise State University, Boise.

Thursday, February 17: Monthly meeting. Dr. Vincent Kituku, Riparian Ecologist for Idaho Power, will give a talk titled "Natural Resources in Africa in a Changing Time".

Thursday, March 17: Monthly meeting. Dr. Bill Rember, Paleobotanist, will continue his tour of Idaho, giving another interesting and informative talk on paleobotany in Idaho.

Saturday, April 2: Field trip to Bruneau Sand Dunes State Park. Meet at 8:30 a.m. at the Boise District BLM Parking Lot, at 3948 Development Avenue. We will carpool from there. Expect a day long trip, with spring weather, and bring a lunch. For more information, contact Ann DeBolt at 384-1244.

Thursday, April 21: Monthly meeting - "Vegetation of Chile". Bob Moseley, Idaho Fish and Game Conservation Data Center Plant Ecologist, will (finally) show his slides from his several trips to this South American country.

Saturday, April 30: Planting at the Idaho Botanical Gardens. Please call Nancy Cole at 343-5388 for details.

NEW BOOKS

Members Doreen Dorward and Sally Swanson have authored a brand new wildflower book, *Along Mountain Trails (and in Boggy Meadows)*, just off the press from Boggy Meadows Press in Ketchum. You can order copies through your favorite bookstore from Boggy Meadows Press, Box 5129, Ketchum, Idaho 83340. Reviews, anyone?

SAGE NOTES is published in February, May, September and November and SAGE BRIEFS is published in January, April, June and August by the Idaho Native Plant Society, incorporated since 1977 under the laws of the State of Idaho. Newsletter ads: personal ads $2.00, commercial ads $5.00 for 1/8 page, $8.00 for 1/4 page, $15.00 for 1/2 page and $25.00 for full page. Ads should be sent with payment. Members and others are invited to submit material for publication. Articles in any form, even hand-written, are welcome. Please provide a phone number in case there are questions. Materials will not be returned unless specifically requested. Send submissions directly to the editor. Please contact the editor about specifics regarding computer compatibility.

OFFICERS
State Officers, P.O. Box 9451, Boise, ID, 83707: President-Susan Bernatas, Vice President-Wayne Owen, Secretary-Jim Smith, Treasurer-Pam Conley. **Wood River Chapter**, P.O. Box 4154, Ketchum, ID, 83340: President-Kristin Fletcher, Vice President-Lisa Clark, Secretary-Julie Decker, Treasurer-Pam Jarolinek, Member-at-Large-Clark Heglar. **Calypso Chapter**, 4301 N. Ramsey Rd., #A2-14, Coeur d'Alene, ID, 83814: President-Cathy Snider, Vice President-Bob Mathiasen, Secretary-LeAnn Eno, Treasurer-Janet Benoit. **Pahove Chapter**, P.O. Box 9451, Boise, ID, 83707: President-Michael Mancuso, Vice President-Ann DeBolt, Secretary-Steve Jerick, Treasurer-Pam Conley. **Sah-Wah-Be Chapter**, 603 Willard Ave, Pocatello, ID, 83201: Treasurer-Harry Giesbrecht. **White Pine Chapter**, P.O. Box 8481, Moscow, ID, 83843: President-Ray Boyd, Vice President-Roger Blanchard, Secretary/Treasurer-Juanita Lichthardt, Publicity Committee Chair-Sonja Lewis. **Newsletter Staff**: Newsletter Editor-Laura Bond, Technical Editor-Bob Steele, Circulation Manager-Pam Conley.

Editor: Laura Bond, 2300 Hillway Drive, Boise, Idaho 83702
(208) 344-7257

The Idaho Native Plant Society (INPS) is dedicated to promoting interest in native plants and collecting and sharing information on all phases of the botany of native plants in Idaho, including educating the public to the value of the native flora and its habitats.

Membership is open to anyone interested in our native flora. Send dues and all correspondence to INPS, Box 9451, Boise, ID, 83707.

Please include me as an Idaho Native Plant Society member:

	Full Year Jan 1-Dec 31	Half Year July 1-Dec 31
___ Sustaining	$30	$15
___ Individual	$ 8	$ 4
___ Household *	$10	$ 5
___ Student	$ 6	$ 3
___ Senior Citizen	$ 6	$ 3

Name:_____
Address:_____
City/State:_____
Zip Code:_____ Telephone:_____ Renewing?_____
Chapter Affiliation?
___ Pahove (Boise)
___ White Pine (Moscow)
___ Calypso (Coeur d'Alene) *Please include $6 chapter dues*
___ Sah-Wah Be (SE Idaho)
___ Wood River (Ketchum-Sun Valley) *Please include $7 chapter dues*
___ None. Those who do not live near a chapter are especially encouraged to join. We can put you in touch with other members in your area, and can coordinate with you on any state level activities you may wish to be involved in. New chapters may be forming in eastern and northern Idaho.
* Household memberships are allocated two votes.

Idaho Native Plant Society
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May, 1994 * SAGE NOTES * A Publication of the Idaho Native Plant Society * Vol 17 (2)

10th Annual Rare Plant Conference

- Nancy Cole, Conference Chair

BIG thank you's go out to the participants of this year's 10th Annual Rare Plant Conference. Nearly 100 people joined together to recognize the hard work and dedication of the original Red Book Committee and then continued the legacy of working toward conserving Idaho's rare flora. Because of the scope of this year's Conference, an especially large number of people worked behind the scenes and at the Conference: Nancy Cole, Ann DeBolt, Willie Gluch, Gary Holmstead, Greg Lind, Michael Mancuso, Kris Meyer, Agnes Miller, Bob Moseley, Wayne Owen, Carol Prentice, and Roger Rosentreter. Idaho Power Company provided the facilities. Photocopy services were donated by the Boise National Forest, Bureau of Land Management and Idaho Power. Be sure to acknowledge everyone when you have the opportunity. They represented INPS well!

INPS Annual Meeting in McCall

- Wayne Owen

The time has come to contemplate our annual meeting and this year we are going to enjoy the cool, breezy beauty of Payette Lake in McCall. This year's meeting will be on Saturday the 30th of July. We have reserved space at the University of Idaho's McCall Field Campus from the 29th through the 31st. We are planning an exciting field trip for Saturday, the location of which is a closely guarded secret (i.e. we have yet to make a final decision...). We expect it to be an easy hike so that everyone can enjoy it. Basic lodging at the Field Campus is $15 per person per night though there are other variations that can be more or less expensive. A pleasant advantage of the McCall Field Campus is that they offer a food service (at a modest cost) so that you won't need to fiddle with the messy details of meal preparation. If you are planning to attend the annual meeting and are also planning to stay at the McCall Field Campus, you will need to make a reservation with Wayne Owen (364-4164) prior to the 14th of July so that we finalize our arrangements with the University of Idaho. If you are the adventurous type you can camp at nearby Ponderosa State Park (you'll need to make reservations early though at 327-7444). There are also several Forest Service Campgrounds in the McCall area, for information on these you can call the Payette National Forest, McCall Ranger District at 634-0400. For those among us that are less adventurous, McCall offers a broad array of very civilized hotels and motels (again, due to the time of year that we are meeting it is a good idea to make your reservations early). We are hoping for a great turn out this year, come on out and support your Native Plant Society, get to know people from other chapters and enjoy a summer weekend deep in the lush green forests of central Idaho.

Remember, early reservations are the key to having a good time. If you wish to stay at the McCall Field Campus, call Wayne Owen (364-4164) by the 14th of July.

Please see page 3 for a map to the McCall Field Campus.

STATEWIDE BUSINESS

INPS BUDGET

April 7, 1994

INPS BUDGET

Receipts:	93 proposed	93 actual	94 proposed
Member Dues for '93	$ 2900.00	2784.19	3000.00
Rare Plant Conference	100.00	140.93	-53.60
T-Shirt Sales	?	8.57	500.00
Newsletter Ads	100.00	5.00	20.00
TOTAL	$ 3,100.00	$ 2,938.69	$ 3,466.40
$ from previous year	1586.21	1586.21	1170.98
GRAND TOTAL	$ 4,686.21	$ 4,524.90	$ 4,637.38
Expenses:			
Dues Returned to Chapters	$ 660.00	775.75	689.00
T-Shirts	400.00	0	558.43
Newsletter	1220.00	2199.73	2200.00
Editor phone	25.00	0	25.00
Bulkmail Permit	75.00	75.00	75.00
Post Office Box	49.00	49.00	49.00
Stamps & mailings, labels, paper, printing, envelopes, etc.	250.00	292.56	300.00
Idaho Botanical Garden Dues	25.00	25.00	25.00
TOTAL	$ 2,704.00	$ 3,417.04	$ 3,921.43
OVER SPENT		478.35	455.03

A ballot with candidates for statewide office was to appear in this issue of *SAGE NOTES*. However, there are **NO CANDIDATES for the offices of president and vice-president!** The current secretary, Jim Smith, and treasurer, Pam Conley, are willing to hold these posts for another year.

How to handle this current situation will be the topic of the next INPS Board Meeting, to be held on May 15, 1994, clearly before you receive this newsletter. However, *DON'T LET THAT HOLD YOU BACK IF YOU WANT TO BECOME INVOLVED IN STATEWIDE OFFICES!* If issues within the organization, such as **advocacy, education or specific projects** are not enough to spark your excitement, perhaps *NATIONAL ISSUES,* such as the **re-authorization of the Endangered Species Act and competing wilderness bills for Idaho**, will spark your enthusiasm for stepping up your involvement in the Idaho Native Plant Society! COME TO THE ANNUAL MEETING, with your ideas and energy, and be prepared to discuss what INPS should do if ***NO ONE*** takes on the offices of president or vice president.

Highlights from the Board Meeting, April 2, 1994

- Submitted by Jim Smith, INPS Secretary

Attending: Susan Bernatas, Wayne Owen, Juanita Lichthardt, Robert Mathiasen, and Kristin Fletcher.

Elections: Names were mentioned for members-at-large and statewide offices. Jim Smith and Pam Conley have both agreed to run again for secretary and treasurer. However, candidates have not been found for president and vice president. Additionally, Laura Bond wishes to be replaced as newsletter editor by January 1, 1995.

Annual Meeting: Wayne Owen and Alma Hanson have been working on this. It is scheduled to be held at the University of Idaho Field Camp.

Advocacy: Since the last meeting, board members have had a chance to discuss advocacy with their individual chapters. Following are the reports back from the chapters:

Calypso Chapter (from Bob Mathiason): Interest lies primarily in education and volunteer efforts, not in advocacy. No interest in involvement in controversial issues.

White Pine Chapter (from Juanita Lichtardt): Interest in considering issues as they arise, strong negative comments regarding legal actions, interest in letters of support of activities and in position statements, some interest in chapter autonomy (report updated by White Pine Chapter).

Wood River Chapter (from Kristin Fletcher): Interest in education, against chapters acting alone, interest in letters of support, found division among group regarding these activities.

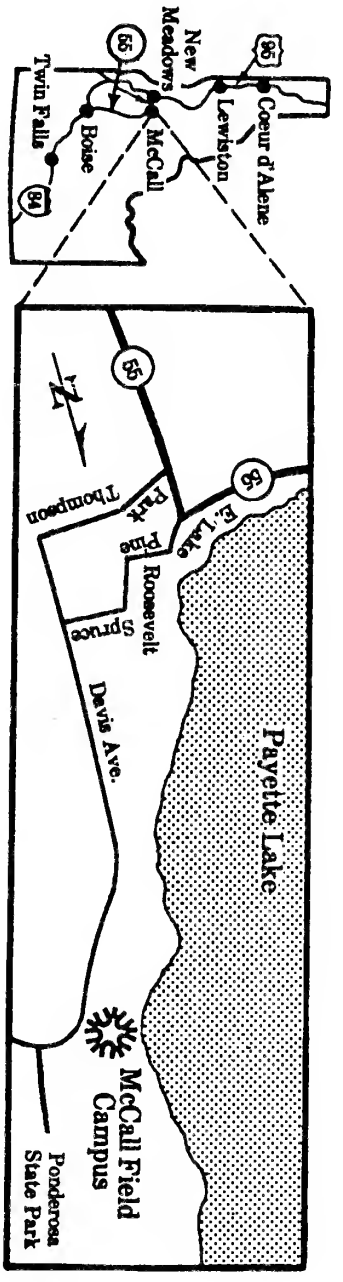
Pahove (from Wayne Owen): Interest in advocacy as a way to protect native plants.

Overall, people feel that guidelines should be written for chapters and the society to follow regarding handling of advocacy of issues.

Miscellaneous: People would like to see the budget in the newsletter (and so it is! -ed).

THE NEXT MEETING IS SUNDAY, MAY 15, 1994 AT 9:00 MST, 8:00 PST.

Owing to the late publication of the May, 1994 *SAGE NOTES*, there will be NO June *SAGE BRIEFS*. The tentative newsletter schedule for the summer is an August *SAGE BRIEFS* and a September *SAGE NOTES* (although occaisionally the schedule changes without notice . . .) Please send chapter news, field trip reports, poetry, artwork or articles directly to the editor (address on back) by mid-August. **THANKS!**



- Map to the University of Idaho Field Campus, taken directly from their brochure.

From the President . . . (of the United States)

- Forwarded from Nancy Shaw, Research Botanist at the U.S.F.S. Intermountain Research Station

. . . Attached is an executive memorandum from the President directing the use of native pants in landscaping, water conservation, and other land ethic practices. It will be up to individual federal agencies to develop a means to implement this direction. We ought to put this in the INPS newsletter so folks can encourage their local feds to comply when new buildings/landscaping occur.

THE WHITE HOUSE
Office of the Press Secretary

For Immediate Release April 26, 1994

MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES

SUBJECT: Environmentally and Economically Beneficial Practices on Federal Landscaped Grounds

The Report of the National Performance Review contains recommendations for a series of environmental actions, including one to increase environmentally and economically beneficial landscaping practices at federal facilities and federally funded projects. Environmentally beneficial landscaping entails utilizing techniques that complement and enhance the local environment and seek to minimize the adverse effects that the landscaping will have on it. In particular, this means using regionally native plants and employing landscaping practices and technologies that conserve water and prevent pollution.

These landscaping practices should benefit the environment, as well as generate long-term cost savings for the Federal Government. For example, the use of native plants not only protects our natural heritage and provides wildlife habitat, but also can reduce fertilizer, pesticide, and irrigation demands and their associated costs because native plants are suited to the local environment and climate.

Because the Federal Government owns and landscapes large areas of land, our stewardship presents a unique opportunity to provide leadership in this area and to develop practical and cost-effective methods to preserve and protect that which has been entrusted to us. Therefore, for Federal grounds, Federal projects, and federally funded projects, I direct that agencies shall, where cost-effective and to the extent practicable:

(a) use regionally native plants for landscaping;

(b) design, use, or promote construction practices that minimize adverse effects on natural habitat;

(c) seek to prevent pollution by, among other things, reducing fertilizer and pesticide use, using integrated pest management techniques, recycling green waste, and minimizing runoff. Landscaping practices that reduce the use of toxic chemicals provide one approach for agencies to reach reduction goals established in Executive Order No. 12856, "Federal Compliance with Right-To-Know Laws and Pollution Prevention requirements;"

(d) implement water efficient practices such as the use of mulches, efficient irrigation systems, audits to determine exact landscaping water-use needs, and recycled or reclaimed water and the selecting and siting of plants in a manner that conserves water and controls soil erosion. Landscaping practices, such as planting regionally native shade trees around buildings to reduce air conditioning demands, can also provide innovative measures to meet the energy consumption reduction goal established in Executive Order No. 12902, "Energy Efficiency and Water Conservation at Federal Facilities;" and

(e) create outdoor demonstrations incorporating native plants, as well as pollution prevention and water conservation techniques, to promote awareness of the environmental and economic benefits of implementing this directive. Agencies are encouraged to develop other methods for sharing information on landscaping advances with interested nonfederal parties.

In order to assist agencies in implementing this directive, the Federal Environmental Executive shall:

(a) establish an interagency working group to develop recommendations for guidance, including compliance with the requirements of the National Environmental Policy Act, 42 U.S.C. 4321, 4331-4335, and 4341-4347, and training needs to implement this directive. The recommendations are to be developed by November 1994; and

(b) issue the guidance by April 1995. To the extent practicable, agencies shall incorporate this guidance into their landscaping programs and practices by February 1996.

In addition, the Federal Environmental Executive shall establish annual awards to recognize outstanding landscaping efforts of agencies and individual employees. Agencies are encouraged to recognize exceptional performance in the implementation of this directive through their awards programs.

Agencies shall advise the Federal Environmental Executive by April 1996 on their progress in implementing this directive.

To enhance landscaping options and awareness, the Department of Agriculture shall conduct research on the suitability, propagation, and use of native plants for landscaping. The Department shall make available to agencies and the public the results of this research.

WILLIAM J. CLINTON

Pahove Fundraiser for the Native Plant Garden at the Idaho Botanical Garden

Upland and riparian species native to Idaho are for sale at the Idaho Botanical Garden. Proceeds from these sales will go directly to the native plant display "sponsored" by the Pahove Chapter. All plants are 1 gallon size. Upland species include kinnikinnik and fernbush, and riparian species include Kalmia, yellow willow, Laborador tea and nootka roses. Garden hours are Monday through Friday 9:00 a.m. until 5:00 p.m., and Saturdays from xx to xx. Call the Idaho Botanical Garden for more information at 343-8469.

Plea for Slides . . .

- Nancy Cole, Pahove Chapter

There is a growing interest in using Idaho's native plants in yardscapes. Two Pahove Chapter members, Nancy Cole and Mark Shumar, are regularly educating interested Boise area residents on the values and pleasures of incorporating native species into their yards. If you have color slides of native plants growing in your yard, would you consider sending the slide (or a copy) to Nancy? Send the slides to 6650 Glacier Dr., Boise, ID 83712. Be sure to lable them with your name and the species' name. If you have questions, you can call (208) 343-5388.

A Look at Linum and Linen

- Susan Erwin, Pahove Chapter

Linum lewisii is one of nearly 100 species in the genus *Linum*, a member of the Flax family (Linaceae). Members of this family may be found throughout the world in both hemispheres, and may be one of the most important vegetable fibers from the standpoint of widespread and continuous usage. Most of us know it as that pretty yet frustrating blue perennial that drops its petals when picked and opens only a few blossoms at any one time.

Although found throughout the world, in North America it is common in the west and midwest in dry, sunny habitats with well-drained soils. Flowers can be white, blue, yellow or red. Petals stay on the plant for only a short time after blooming. Blue flax is a handsome plant commonly used as an ornamental in landscape gardening.

In the west, prairie flax was first described by Meriwether Lewis near the Continental Divide in Montana on the famous Lewis and Clark Expedition. It has been written that Native Americans used the plant in baskets, mats, snowshoes, fish nets, strings and cords. Flax species in general are considered poor to fair livestock forage. Some species are poisonous to livestock, containing cyanide compounds in the seeds.

The European species of flax, *Linum usitatissimum*, was imported and widely cultivated by the early American colonists, and later on the prairies as Americans headed west. Diminishing supplies of imported textiles in the early seventeenth century necessitated growing flax in the colonies to provide fiber for weaving textiles. The Massachusetts General Court ordered boys and girls to be taught to spin, and families to grow a certain amount of flax each year, or pay a fine!

The first true linen industry started in the early eighteenth century in New Hampshire by Scotch-Irish immigrants. Linen textiles were considered a status symbol during that time and continue to be considered a finer quality fabric. By the nineteenth century, production of linen shifted from hand weaving and spinning to factories and automated machines. The transition to automation was slow in coming because of the difficulty in processing flax's brittle fibers. Eventually, cotton replaced linen as the fiber of choice because it was easier to process and was readily available everywhere.

Linen requires approximately one year from seed-sowing to finished product. More labor intensive than cotton or wool, linen garments last just as long and actually improve with age and wear. Processing involves drying the plants, then beating them to separate the inner pith from the woody fibers. These fibers are then carded, combed and spun in much the same way that wool is processed. Other uses for flax are linseed oil from the seeds and as a medicine for inflamation, coughs, ulcers and burns.

Elva Lawton (1896-1993)

- Submitted by Michael Mancuso, Pahove Chapter

Elva Lawton, bryologist, teacher, and author of the *Moss Flora of the Pacific Northwest* died in February, 1993, at the age of 96. By all accounts she was a remarkable woman. She began teaching after graduating from high school in 1915 in a one-room school in Washington County, Pennsylvania. She eventually received a B.S. and master's degree from the University of Pittsburgh, and in 1932, received a Ph.D from the University of Michigan, based on a dissertation regarding the cytology, physiology and ecology of ferns.

For 31 years, 1928-1959, Elva was a professor at Hunter College in New York, and often spent summers conducting field research on mosses. Around the early 1950's, she began to spend summers collecting and studying mosses in the west. In 1959 Elva retired from Hunter College, but not from science or life, as she moved to Seattle and assumed a position as Research Associate in the University of Washington Herbarium and was placed in charge of bryophytes curation. She devoted full time study to western North America mosses between 1962 and 1971. Published in 1971, *Moss Flora of the Pacific Northwest* remains the most comprehensive reference for mosses in the region. Elva remained associated with the University of Washington for 34 years, teaching her last bryology class at age 85, and working in the herbarium nearly every day until she was 90! She lived in her own home, by herself until the age of 95, at which time she moved into a retirement home.

Whether for fun or work, people who study and enjoy the mosses in Idaho owe a debt of thanks to Elva Lawton for all her pioneering work.

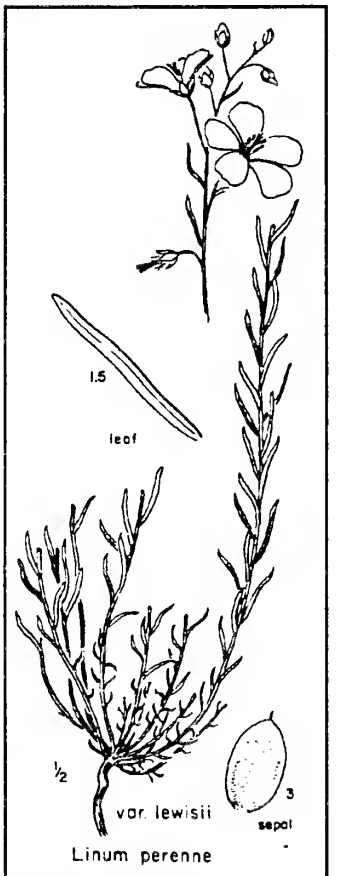
(The information contained in this article was gleaned from a longer one appearing in the *Bulletin of the Torrey Botanical Club* 12(1), 1994.)

Message from State of Idaho, Department of Agriculture Purple Loosestrife Control Project

Purple loosestrife is one of the most destructive forces threatening wetlands habitats in the Boise Valley. Large areas have been taken over by the plant, which is so aggressive that it crowds out other vegetation important to the wetland's ecological web. Loosestrife plants or seeds are not a source of food for wildlife and the roots and stems grow so densely that birds cannot nest in the area, and fish cannot use the water's edge as nurseries. At the present time, the most effective control measure is to pull the plants and burn the dried shoots and roots. Biological control is too far away to wait for, and chemical control cannot be used because it would contaminate the water.

For two years, a small group of concerned citizens has met at Eagle Island on a project to restore wetland habitat. These volunteers have cleared most of the loosestrife from the lagoon next to the swimming area. However, if the area around the rest of the lagoon is to be restored, the number of participants must be significantly expanded. There are several areas where the infestation is new enough to be easily controlled. Other areas will take a massive effort to be restored.

We are asking other individuals and groups to get involved. Helping at Eagle Island will contribute to saving a rich biological community enjoyed by the many visitors to the park. It will help to educate citizens of the area to the destructive nature of this weed. And, after you have worked to remove a few massive root systems, you will join many others in the campaign to educate the public about the UGLY side of this pretty weed.



Drawing by John Rumely

A workday is scheduled for Saturday, May 21 at Eagle Island State Park. Join the Idaho Department of Agriculture and the Idaho Department of Parks and Recreation at the picnic shelter at 9:00 a.m. on Linder Road. Bring durable shoes (they will get wet), shovels, heavy gloves and a lunch. Drinking water and soft drinks will be provided. Contact Laurie McCord at 334-2345, Velma Vance at 342-2337 or Loal Vance at 334-3240 for more information. We can send you further information about this weed and control efforts, or make a brief presentation.

Bruneau Sand Dunes Field Trip

- Wayne Owen, Pavhove Chapter

The Pahove Chapter field trip on April 16 to the Bruneau Sand Dunes was very successful. The weather was beautiful, sunny and warm. Attendance was very good too, over a dozen enthusiasts of all ages showed up for fun in the sun and sand. The focus of the trip was to see *Leucocrinum montanum*, the white sand lily. The *Leucocrinum* was excellent, it was very abundant and most plants were so heavy with flowers that they looked like large piles of snow laying on the sand. The photographic opportunities were exceptionally good and I expect that this field trip will be remembered by many as the year they got a great picture of *Leucocrinum*. The only other plant in flower was *Cryptantha circumscissa*, a diminutive annual. These plants were all less than a centimeter in height and about ten percent of them had a single miniature flower. Even though there were few species in bloom, we did manage to see a great variety of plants. The *Enceliopsis nudicaulis* (Naked-stemmed sunray), a sand dune plant from the Great Basin was in bud as was the sand dune penstemon (*Penstemon acuminatus*). Another exotic dune plant seen on the field trip was *Abronia millefera*, not to be confused with the *Abronia fragrans* that is common in the Boise Foothills. Since there was so few species in bloom, we entertained ourselves with a friendly game of guess the seedling. Among the plants that we recognized were the delicate *Gilia leptomeria*, *Lupinus pusillus* with its persistent cotyledons, the ground hugging *Coldenia nuttallii*, and less than friendly *Solanum rostratum*. So while the diversity of flowers was low, there were enough plants to keep everyone interested.

We finished hiking in the dunes by one o'clock and retired to the picnic area for a pleasant lunch. It was a wonderful day for a field trip and I hope that INPS members visit the Bruneau Dunes often to enjoy the unique botanical community found there.

Chapter News

Big Wood Chapter

New faces on the Board (but not at field trips or meetings!) include Dan Casali who was elected Treasurer, taking over for long-time member Pam Jarolimek. Dan also offered to computerize our membership list and newsletter (yahoo!!).

Judy McKay takes over as Secretary from Julie Decker. Thanks for everything, Julie - your hard work and enthusiasm will be missed!

A very special thanks to the dozen or so members who brainstormed ideas and offered to organize another great year of exciting lectures and field trips.

The White Cloud milkvetch (*Astragalus vexilliflexus* var. *nubilus*), a federally listed species formerly considered endemic to the White Clouds, was discovered on a peak in McCall in 1993. Populations of guardian buckwheat (*Eriogonum meledonum*) and Stanley whitlow-grass (*Draba trichocarpa*), both federal candidate species endemic to the cliffs around Stanley, seem stable but little reproduction is noted.

Strong agency support was expressed to designate Kane Lake a Special Interest Area for its unusual arctic habitat and rare plant populations. INPS (statewide) may take the lead in pursuing this designation.

Pahove

A THANK YOU to Pahove officers, past and future, from Michael Mancuso, outgoing president:

New officers were elected for the Pahove Chapter at the monthly meeting in April. Starting in September, the new Pahove officers will be Wayne Owen, President; Mark Shumar, Vice-President; Susan Erwin, Secretary; and Ann Brueck, Treasurer. Pahove is fortunate to have such an excellent new slate of officers.

I would like to take this opportunity to acknowledge all of the hard work and dedication with which the outgoing group of Pahove officers have served, and also thank them for all their friendship.

Pam Conley has been Treasurer for Pahove for several years and has done an outstanding job. Among the many responsibilities she volunteered was to get the mail for INPS and distribute it to the appropriate person. So a special thanks for her many trips to the Post Office.

Steve Jirik has been Secretary for the past year and I especially have appreciated his help advertising various Pahove meetings and events.

The excellent line-up of field trips and speakers at monthly meetings the past two years has been primarily due to the hard work of Ann DeBolt. As Vice-President, Ann's good energy and commitment to Pahove have been unsurpassed. She has always been ready with a helping hand and smile whenever needed, which occurs often. Thank you Ann.

Now that the season of longer and warmer days is here, I hope we all make ample time to get out and enjoy Idaho's native plants. Happy trails.

Pahove Plant Sale - from Ann DeBolt

This year's plant sale at the Idaho Conservation League's Earth Day Celebration was hugely successful! We could not have done this without donations we received from Joe Duft, Northplan Seed, Nancy Cole, Ralph Kientz and Lucky Peak Nursery. Thank you for helping to make this year's event such a successful one!

Sah-Wa-Be

This chapter is back up and running for another active season of wildflower watching! Look for trips in eastern Idaho in the field trip section of the newsletter!

I would like to extend a very special THANKS to Bob Steele, our technical editor for so many years. He has turned the job over to Bob Moseley, effective immediately. Bob Steele has very patiently looked up technical terms and verified Latin names, made pertinent suggestions on wording and style, and found the usual typos and grammatical errors - the true definition of technical editing.

Welcome, Bob Moseley!

Following is the updated list of field trips for all of the chapters. **Please note that two Pahove field trips require ADVANCE REGISTRATION: the Wildflower Week Hull's Gulch walks and the native garden trip on June 4.** Please send any updates for late summer trips directly to the editor for inclusion in the August, 1994, *SAGE BRIEFS.*

C	May 12 Thursday	Monthly meeting, topic to be announced. Fish and Game Office meeting room, corner of Atlas and Kathleen, 2750 Kathleen, Coeur d'Alene at 7:00 p.m. Call Cathy Snider at 664-5411 for more information.
SWB	May 14 Saturday	Field trip to Deer Cliff (or is it Deer Creek/Bear Cliff?) Recreation Site, east of Downey / Preston, in southeast Oneida County. Leave at 9:30 a.m. from the Idaho State University parking lot on 5th and Humboldt Streets, across from the Circle K. Call Ruth at 233-5011 for further details.
C	May 14 Saturday	Trip to Q'emlin Trails in Post Falls. Meet at 10:00 a.m. at the trailhead on the west side of Post Falls Community Park. Call Cathy Snider for details at 664-5411.
P	May 14 Saturday	Vale District BLM Botanist Jean Findley will lead this trip to spectacular Leslie Gulch, home of numerous rare plant species, including *Ivesia rhypara*, *Trifolium owyheense*, *Mentzelia packardiae*, and others. Eastern Oregon's William Cusick chapter will be the joint sponsor of this trip. Meet at 9:30 a.m. at the park on the west bank of the Snake River in Marsing, Idaho, or at 10:30 at the overlook before you drop down into the gulch. Bring lunch and water, and camping equipment if you plan to spend the night. Also bring work gloves and trowels, as we will spend a little time eradicating scotch thistle from the vicinity of some rare plant sites. Call Jean (503-889-5908) or Anne (208-384-1244) for additional information.
	May 18 -May 20	Wetland Plant Identification Short Course, sponsored by the University of Nevada, Reno Herbarium (announced by the Northern Nevada Native Plant Society). Intensive hands-on workshop on plants associated with Nevada wetlands, including teaching laboratory techniques and field identification. Instructors are Lynda Nelson, Belinda Love, and Dr. Paul Tueller. Contact Belinda Love at (702) 784-1105 for more information.
P	May 19 Thursday	Monthly meeting WILL NOT BE HELD THIS MAY! See you in September . . .
	May 21 - May 28	National Wildflower Week is promoted by the U.S. Forest Service in recognition of botanicals that are not used for forage or fiber (meaning timber harvesting!). Events this year held in Idaho include walks by several chapters and a photography contest by the Forest Service (see entry for May 6).
P	May 21 Saturday	Join Kay Beall of the U.S. Forest Service Lucky Peak Nursery for a tour of the nursery. We will see the different nursery operations, including seed cleaning and storage, and how and where the different trees and native shrubs are grown. We will also hike the nursery's nature trail and visit a reconstructed wetlands in-the-works. A visit to the Intermountain Research Station's shrub garden may also be in order. Meet at 10:00 a.m. at the Boise National Forest Ranger Station on Hwy. 21 several miles east of Boise. For more information contact Kay at 343-2823.
WP	May 21 Saturday	We will kick off National Wildflower Week with a trip to Skyline Drive to view early spring wildflowers. Meet at 9:00 at Rosauer's parking lot. Bring lunch and water.

SW	May 21 Saturday	The 1994 Purple Loosestrife Plague Project is looking for people to help eradicate this alien weed from Eagle Island State Park. Meet at the Picnic Shelter at the park on Linder Road at 9:00. Bring durable shoes (rubber boots are best), a shovel, heavy gloves and lunch. Water and soft drinks will be provided. To join concerned citizens with this yearly effort, call Laurie McCord (334-2345), Loal Vance (334-3240) or Velma Vance (342-2337).
C	May 21 Saturday	Bob Mathiason is leading a trip to Tubbs Hill in conjunction with his wildflower class. Call him for details on this walk at 765-5788.
P	May 28 Saturday	Hull's Gulch hike to celebrate National Wildflower Week. U.S. Forest Service botanist Wayne Owen and BLM botanist Anne DeBolt will lead this trip to examine the local foothills flora. There will be two trips, one to view wetlands in Lower Hulls Gulch, and another to view plants in Upper Hulls Gulch. Both will last approximately three hours. Each trip will leave twice during this day. You MUST reserve a spot with Wayne Owen to attend - call him at 364-4164 during the day to claim your spot, and to find out where and when these trips will meet!
SWB	June 4 Saturday	Day trip to Wolverine Canyon, east of Blackfoot in Bingham County (note- this is the "correct" date for this trip, for those of you who may have different information!). Meet at 9:00 a.m. at the ISU parking lot in Pocatello at 5th and Humboldt Streets, across from the Circle K. Call Ruth for details at 233-5011.
P	June 4 Saturday	Native Garden Tour! As we've done in the past, we will tour several gardens in twon where xeric and/or native plants are the dominant theme. You MUST sign up to ensure a spot on the tour, and enrollment is limited. Call Ann DeBolt for sign ups and information at 384-1244. We will meet at 9:00 at the Fish and Game Office parking lot on Walnut Avenue.
WR	June 6 Monday	Monthly meeting, followed by an informal evening walk. Call Kristin for details at 788-9530. Environmental Resource Center, 6th and Leadville, Ketchum, Idaho.
	June 15- June 17	Wetland Plant Identification Short Course, sponsored by the University of Nevada, Reno Herbarium. Please see entry for May 18-20 for information and description.
WR	June 25-26 Sat/Sun	Edible and Medicinal Plants of the Wood River Valley. Back by popular demand, well-known herbalist and founder of the Rocky Mountain Plant Study Center (Jackson, Wyoming), Clarissa Smith, will teach a 2-day outdoor class on how to safely identify and prepare native plants for food and/or medicine. This great class will fill, so sign up early! $65 members/ $75 non-members. Call Kristin at 788-9530 for registration, information and meeting time and location.
SWB	July 9 Saturday	Camping at Cave Falls, at the western-most edge of Yellowstone National Park. Camp at Cave Falls, hike along Boundary Creek, or more ambitious hikers can enjoy the many other trails in the area. The approach is seven miles past Ashton on State Hwy. 47, follow the spur road to the Beckler Ranger Station, north of Marysville. The trail starts three miles from there. Call ahead to Ruth at 233-5011.
WP	July 16 Saturday	Learn about the Alien Species of Latah and Nez Perce counties with Dr. Bob Callihan, professor of Weed Science at the University of Idaho. Meet at Rosaur's parking lot at 8:30 a.m.
C	July 16 Saturday	Field trip at Heyburn State Park and "vicinity". Some members plan to continue into the lower St. Joe river area, and some members plan to stay overnight. Meet at Heyburn State Park at 9:30 a.m. Call Bob Shackelford at 765-8926 for more information.

!!!	July 30 Saturday	INPS ANNUAL FIELD TRIP! See information on the first page of the newsletter . . .
WP	August 6 Saturday	Wetlands of the Coeur d'Alene River with Rober Bursik and (possibly) Joe Duft. Meet at Rocky Point Visitors Center at Heyburn State Park east of Plummer at 9:00 a.m. From there, we'll proceed to the Rose Lake vicinity. Bring rubber boots!
SWB	August 13 Saturday	Holty Leads a Day Trip - through Teton Pass; weekend camping is an option. Call Ruth at 233-5011 for details.
P	Aug. 13 Saturday	Join Dr. Jim Smith, Botany Professor at Boise State University for an expedition to locate historic collection sites of the wetland species *Bacopa rotundiflora* (water-hyssop) and *Mimulus ringens*. Both species were first collected near Nampa approximately 50 years ago, and have been rarely seen since. Meet at the Boise State University parking lot (in Boise) next to the Biology Building at 8:00 a.m. (it's too hot to meet later!). This trip should last all day, so bring a lunch, water, hat, etc. Call Jim for details at 343-0929.
WP	September 3 Saturday	Clarkia Fossil Beds - led by Dr. Bill Rember. Bring a pocket knife, a newspaper and a sack or box for carrying fossils - this is a collecting trip (if you like). Wear comfortable walking shoes as there will be a short walk to the digging spot. Dress for any weather, and bring a lunch. For more information, call Bill Rember at 882-1087. Details on where to meet and when will follow . . .

LEGEND

WP	White Pine Chapter	SWB	Sah-Wa-Be Chapter
C	Calypso Chapter	BW	Big Wood Chapter
P	Pahove Chapter	SW	Southwest Idaho

Drawing by Pam Gontz

Sagebrush Buttercup *Ranunculus glaberrimus*

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Editor: Laura Bond, 2300 Hillway Drive, Boise, Idaho 83702
(208) 344-7257

The Idaho Native Plant Society (INPS) is dedicated to promoting interest in native plants and collecting and sharing information on all phases of the botany of native plants in Idaho, including educating the public to the value of the native flora and its habitats.

Membership is open to anyone interested in our native flora. Send dues and all correspondence to INPS, Box 9451, Boise, ID, 83707.

Please include me as an Idaho Native Plant Society member:

	Full Year Jan 1-Dec 31	Half Year July 1-Dec 31
___ Sustaining	$30	$15
___ Individual	$ 8	$ 4
___ Household *	$10	$ 5
___ Student	$ 6	$ 3
___ Senior Citizen	$ 6	$ 3

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Chapter Affiliation?
___ Pahove (Boise)
___ White Pine (Moscow)
___ Calypso (Coeur d'Alene) *Please include $6 chapter dues*
___ Sah-Wah Be (SE Idaho)
___ Wood River (Ketchum-Sun Valley) *Please include $7 chapter dues*
___ None. Those who do not live near a chapter are especially encouraged to join. We can put you in touch with other members in your area, and can coordinate with you on any state level activities you may wish to be involved in. New chapters may be forming in eastern and northern Idaho.
* Household memberships are allocated two votes.

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